

Appl. No. 10/070,196  
Atty. Docket No. AA420  
Amdt. dated May 19, 2003  
Reply to Office Action of November 18, 2002

### REMARKS

Claims 1 - 8 are pending in the present application. No additional claims fee is believed to be due.

The specification has been amended on page 1, first paragraph, in order to contain a specific reference to the prior application to which the present application is claiming benefit of priority.

Claims 1, 7 and 8 had been previously amended, but still contained alterations. Appropriate correction has been taken. Claims 1, 2, 7, and 8 have also been rewritten to more specifically characterize wherein the alkyl ethoxylate is combined with the gel matrix at a temperature of less than 60°C. Support for this amendment is found at page 34, line 19 to page 35, line 31 of the specification.

It is believed these changes do not involve any introduction of new matter. Consequently, entry of these changes is believed to be in order and is respectfully requested.

### Rejection Under 35 USC 112, Second Paragraph

The Office Action States that Claims 2 and 7 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicants regard as the invention. Accordingly, Claims 2 and 7 have been amended to delete the term "about" as it was viewed as indefinite and unclear.

### Invention Synopsis

The present application discloses a hair care composition comprising an alkyl ethoxylate of the formula:  $R-O-(C_2H_4O)_nH$ , wherein R is an alkyl group having from about 1 to about 30 carbon atoms, wherein n is from about 1 to about 10, wherein the weight average molecular weight of the alkyl ethoxylate is less than about 500 g/mol, and wherein the HLB value of the alkyl ethoxylate is from about 6 to about 11; and a gel matrix comprising a cationic surfactant, a solid fatty compound, and water; wherein the alkyl ethoxylate is combined with the gel matrix at a temperature of less than 60°C.

### 35 U.S.C. § 102(a)

Claims 1, 3, 5 and 6 are rejected under 35 U.S.C. § 102(a) as being anticipated by Uchiyama et al (WO 99/13838). Applicants respectfully traverse this rejection. Uchiyama et al discloses a hair conditioning composition comprising a high molecular weight ester oil being

Appl. No. 10/070,196  
Atty. Docket No. AA420  
Amdt. dated May 19, 2003  
Reply to Office Action of November 18, 2002

water-insoluble, having a molecular weight of at least about 800, and in liquid form at 25°C, the high molecular weight ester oil selected from the group consisting of panterithritol ester oils, trimethylol ester oils, and mixtures thereof; a hydrophilically substituted cationic surfactant, a high melting point compound having a melting point of at least 25°C and an aqueous carrier.

The present invention is directed towards a composition comprises an alkyl ethoxylate and a gel matrix. By the combination of this alkyl ethoxylate and gel matrix, the composition can provide volume down benefit compared to those containing only gel matrix. The alkyl ethoxylate is selected based on HLB. The selection of HLB is important. Alkyl ethoxylates having a lower HLB do not provide a sufficient volume down benefit. Alkyl ethoxylates having a higher HLB are easily rinsed-off, so they also do not provide a sufficient volume down benefit. Oleth-2 in Uchiyama et al (page 25) has an HLB of 5. As amended, the present invention requires the range of HLB from 6-11, based on the description in page 5. Therefore, Uchiyama et al does not disclose the present invention. Further, as Uchiyama et al does not recognize the relationship between volume down benefits and HLB, there is no motivation to select certain alkyl ethoxylate based on HLB.

Uchiyama et al discloses a variety of high melting point fatty compound including ceteth-1-10 etc in page 10. Again, there is no motivation to select certain alkyl ethoxylates.

Furthermore, Uchiyama et al high m.p. fatty compound is mixed with cationic surfactant etc. at 70°C (in page 30), in order to form gel matrix. On the other hand, as now amended, the present invention's alkyl ethoxylate is added, after the formation of gel matrix, at around less than 60°C (in page 34-35). In the present invention, the alkyl ethoxylates are not used for forming gel matrix, thus the alkyl ethoxylate exist outside of gel matrix, i.e. exist separately from gel matrix. It is also believed that, by existing outside of gel matrix, alkyl ethoxylates can deposit on the hair and penetrate into the hair more efficiently. It has further been found in the present invention that by combining the alkyl ethoxylate with the gel matrix at a lower temperature which is closer to the storage temperature of the final hair care composition, phase changes during storage are minimized, viscosity is maintained, greater stability is achieved, and as certain oils used herein possess a strong affinity for hair, they also serve to increase the deposition efficiency of the alkyl ethoxylate onto hair. Clearly, Uchiyama neither discloses nor makes obvious this component of the present invention.

Rejection Under 35 USC 103(a) Over Uchiyama et al (WO 99/13838)

Claims 2, 4, 7 and 8 have been rejected under 35 USC 103(a) as being unpatentable over Uchiyama et al (WO 99/13838). Applicants respectfully traverse this rejection for two reasons. First, Uchiyama et al does not establish a *prima facie* case of obviousness because it does not

Appl. No. 10/070,186  
Any. Docket No. AA420  
Amtd. dated May 19, 2003  
Reply to Office Action of November 18, 2002

teach or suggest all of Applicants' claim limitations. Second, even if a *prima facie* case was established, the obviousness argument is overcome by Applicants' showing of unexpected results. Therefore, Applicants' content that the claimed invention is unobvious and that the rejection should be withdrawn.

Uchiyama et al does not teach or suggest all of Applicants' claim limitations and therefore, does not establish a *prima facie* case of obviousness (see MPEP 2143.03). Specifically, Uchiyama et al does not teach the claim limitation wherein the alkyl ethoxylate is combined with the gel matrix at a temperature of less than 60°C. Specifically, Uchiyama et al high m.p. fatty compound is mixed with cationic surfactant etc. at 70°C (in page 30), in order to form gel matrix. On the other hand, as now amended, the present invention's alkyl ethoxylate is added, after the formation of gel matrix, at around less than 60°C (in page 34-35). In the present invention, the alkyl ethoxylates are not used for forming gel matrix, thus the alkyl ethoxylate exist outside of gel matrix, i.e. exist separately from gel matrix. It is also believed that, by existing outside of gel matrix, alkyl ethoxylates can deposit on the hair and penetrate into the hair more efficiently. Clearly, Uchiyama neither discloses nor makes obvious this component of the present invention.

Further, alkyl ethoxylates having a higher HLB are easily rinsed-off, so they also do not provide a sufficient volume down benefit. Oleth-2 in Uchiyama et al (page 25) has an HLB of 5. As amended, the present invention requires the range of HLB from 6-11, based on the description in page 5. Therefore, Uchiyama et al does not disclose this further limitation of the present invention. Further, as Uchiyama et al does not recognize the relationship between volume down benefits and HLB, there is no motivation to select certain alkyl ethoxylate based on HLB. Uchiyama et al discloses a variety of high melting point fatty compound including ceteth-1-10 etc in page 10. Again, there is no motivation to select certain alkyl ethoxylates.

In the present invention, the alkyl ethoxylates are not used for forming gel matrix, thus the alkyl ethoxylate exist outside of gel matrix, i.e. exist separately from gel matrix. It is also believed that, by existing outside of gel matrix, alkyl ethoxylates can deposit on the hair and penetrate into the hair more efficiently. It further been found in the present invention that by combining the alkyl ethoxylate with the gel matrix at a lower temperature which is closer to the storage temperature of the final hair care composition, phase changes during storage are minimized, viscosity is maintained, greater stability is achieved, and as certain oils used herein possess a strong affinity for hair, they also serve to increase the deposition efficiency of the alkyl ethoxylate onto hair. Clearly, Uchiyama neither discloses nor makes obvious this component of the present invention.

Appl. No. 10/070.196  
Atty. Docket No. AA420  
Amdt. dated May 19, 2003  
Reply to Office Action of November 18, 2002

Conclusion

In light of the above remarks, it is requested that the Examiner reconsider and withdraw the rejection under 35 U.S.C. 112, 102(a) and 103(a). Early and favorable action in the case is respectfully requested.

Applicants have made an earnest effort to place their application in proper form and to distinguish the invention as now claimed from the applied references. In view of the foregoing, Applicants respectfully request reconsideration of this application, entry of the amendments presented herein, and allowance of Claims 1-8.

Respectfully submitted,

Jian-Zhong Yang et al.

By Linda M. Sivik  
Linda M. Sivik  
Agent for Applicant(s)  
Registration No. 44,982  
(513) 626-4122

May 19, 2003  
Customer No. 27752